

SYSTEM TAKES **DIGITAL DECORATION** TO NEW HEIGHTS WITH *creadigit*

In the past, companies would decide to invest in one single technology based on performance. Now, however, the global market is demanding a comprehensive solution made up of cutting-edge processes, in which hardware and software are increasingly inter-linked to create a level of industrial automation able to guarantee utmost flexibility and personalization consistent with lean manufacturing.

Thanks to its ability to convert ideas and experience into concrete solutions, System has become the most important technological partner in the digital decoration field, with the Creadigit system.

Creadigit is a digital single-pass inkjet printing process enabling high definition decorations on the medium, offering the ceramics industry a series of benefits and advantages that were unthinkable not so many years ago. This know-how is underpinned by intense research activity, which has made digital "Drop On Demand" inkjet printing one of its kind around the world.

System has highly technical departments, with mechanical, electronic, chemical and physical engineers who work shoulder to shoulder to transform ideas and inventions, derived from scientific research, into real innovation.

This fully-fledged orchestra works together harmoniously, its members coordinating with each other. It is able to provide novel decorative printing solutions for the creation of ceramic surfaces of extraordinary beauty, with high visual impact and outstanding technical characteristics.

The dawn of digital printing in the ceramics industry has led to developments in production, allowing high-quality, high-speed printing in just one step. System uses Fujifilm Dimatix printing technology.

The head, available in three different versions depending on the native print drop, offers a resolution of 400dpi, internal recirculation, high-strength metal plates and total regeneration capacity. Creadigit's digital inkjet printing is particularly valued for the decoration of large

ceramic surfaces. The **Creadigit XXL** and **Creadigit BS** versions reach a printing width of 1355 mm and 1806 mm respectively. But that's not all, because the processing electronics inside Creadigit enable high-speed printing and to lend a concrete quality to images of all kinds, for graphics of up to 200 m2 in size, making each slab unique.

Creadigit sees architecture and the art of living as a form of expression of human talent. In fact, this digital decoration process makes it possible to produce original surfaces that are capable, for example, of imitating the finish of rusted metal, the feel of wood and its natural vein, and nature's most precious marbles, allowing unlimited creativity.

Laminam Cava Noir Desir 1620x3240x12 mm



Laminam Cava Nero Greco 1620x3240x12 mm



HEADS, CUTTING-EDGE ELECTRONICS AND FLUID DYNAMICS STUDIES.

The departments involved in designing, developing and manufacturing the Creadigit digital inkjet printer are **System Ceramics** and **System Electronics**, which work together in close collaboration in order to provide the international market with unparalleled technologies and processes.

The print heads are at the very core of a process whose complex operation requires newly-developed hydraulics, electronic, mechanical and algorithmic control technologies, since one of the objectives of the printing process is to carry out specific functions for industry. Thanks to the state-of-the-art electronics, the operator can manage a quantity-based printing mode, with immediacy of use, which has always been a sought-after factor. This high-added-value principle allows the technician to set the values of the material to be deposited onto the medium. This is significant, as it is possible to modify the quantity of ink without having to change the file that has already been elaborated for the printing process. Unlike with the resolution printing process, with this method, you can always be sure that Creadigit will deposit the desired amount.

The management of the firing pulse is an example of how each printing process characteristic is studied to the very last detail from a scientific viewpoint, with fluid dynamics studies by physicists and chemists on one side, and cutting-edge electronics on the other.

More than 1000 inks and over 1500 Waveforms head activation electronics tests have been studied and tested to obtain optimal drop on demand digital inkjet printing, on account of the fact that the inks, too, are a crucial factor in print quantity combined with reliability over time, ensuring the highest level of excellence throughout the entire ceramic production process.

The complex nature of the digital system needs mechanics, electronics, hydraulics and control to work together simultaneously during the process in perfect synergy. The control electronics of the color bars, for example, guarantees real-time management with utmost synchronising accuracy, for high definition printing.

The hydraulic and thermal circuits have been designed to allow optimum power to the heads, for both large and small amounts of ink.

The system can determine the most appropriate firing conditions, thus ensuring improved management of the amount of ink it needs to deposit onto the medium. At the same time, the heads are safeguarded against any risks, such as overheating and burning due to firing with no material present. These are accidental risks that System has purposefully studied and solved with hydraulic engineering solutions, where nothing is overlooked.

The machine interface is simple and user-friendly thanks to the HMI platform manufactured in-house by System, and the industrial touch-screen PC COPILOT, which is added at the front of Creadigit.

The great demand for personalization and originality is met by the all-new solutions that System, with its departments, is able to offer the international market as a technological partner.

Creadigit inkjet digital printing encapsulates function and innovation, so much so that it is considered the global reference point in the decoration of ceramic materials, able to lend added value, by widening the horizons of decorative art and promoting the use of ceramics in areas that were unexplored until just a few years ago, for a new kind of creativity.

